

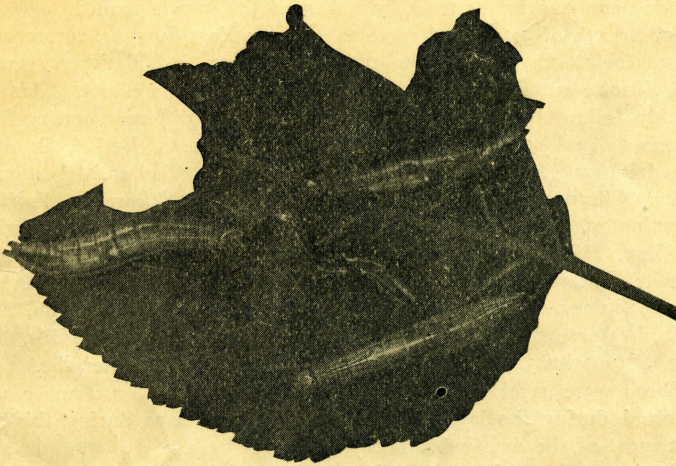
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c.2 CIRCULAR OF INFORMATION

ON

FOREST INSECTS

1908



PROMINENT FOREST CATERPILLAR.  
(*Heterocampa guttivitta*.)

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MAINE DEPARTMENT OF AGRICULTURE

AUGUSTA

BUREAU OF ENTOMOLOGY

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A. W. GILMAN, *Commissioner*



MAY 24 1938



## FOREST CATERPILLARS.

A CIRCULAR OF INFORMATION ON THE PROMINENT CATERPILLAR AND  
SOME OF ITS ASSOCIATES.

There has been such an unprecedented attack by several species of caterpillar, on our hard wood forests during the past few weeks that it seems best to issue a "Circular of Information" from this department on the subject.

Never before, to our knowledge, has there been such a wholesale attack upon our forest trees by either of the insects named.

On the 9th of July word came to us from East Sumner, accompanied by specimens of *Heterocampa guttivitta*, stating that blackberry bushes and trees were being stripped of their leaves by this insect. This was quickly followed by letters and specimens from different parties living in the following towns: Alfred, Auburn, Augusta, Bethel, Bowdoin, Bowdoinham, Bridgton, Brownfield, Buckfield, Chelsea, Chesterville, China, Clinton, Cumberland Center, Dryden, East Sumner, Fairfield, Farmington, Fayette, Frye's Island, Gardiner, Hallowell, Harrison, Houlton, Milton Mills, N. H., Mt. Vernon, Monmouth, Northport, North Waterford, North Windham, Oakland, Palermo, Readfield Depot, Sidney, South Livermore, South Vassalboro, Skowhegan, Steep Falls, Waterford, Wales, West Baldwin, Wiscasset, Webb's Mills, Winthrop, Waterboro, Week's Mills, West Durham and Waterville.

These were received up to Aug. 10 but the greater number were reported during the last two weeks in July. It was during this time that most of the defoliation occurred.

Owing to the lack of time it was impossible to make a personal inspection of many of these places.

On July 21 the writer went to Bowdoin and Bowdoinham and for miles the hard wood trees showed signs of being stripped of leaves. In the woodlot of W. L. Maloon of Bowdoin all of the beech trees were completely defoliated (see cut page 3). Hundreds of acres were reported in this section as being in the same condition. Over the ground, rocks, stumps and trunks of trees was a mass of crawling caterpillars. They were continually falling from the trees and the droppings gave one the impression that it was raining hard. Evergreen trees were completely covered with them, but these were not eaten as the caterpillars were only crawling aimlessly about in an endeavor to secure more food.

July 27 we visited West Baldwin and secured a number of photographs among them being the cut on page 5 showing a branch from an apple tree completely stripped of its leaves. Most of the apple trees in this section were as bare as in winter. One man reported the caterpillars so abundant that they had congregated at the foot of a





FIG. 2. Section of woodlot of W. L. Maloon of Bowdoin, showing trees defoliated by *Heterocampa guttivitta*.



tree in a mass three inches deep. The following varieties of trees and shrubs were found defoliated; beech, white and rock maple, yellow and white birch, white and red oak, elm, hornbeam, apple, cherry, hazle, sumac and blackberry. Occasionally a few were found on oilnut and ash.

Mr. Nathan Sanborn has about fifty acres of hard wood growth, mostly beech and yellow birch, completely stripped, together with all of his apple trees and many shade trees.

Baldwin, Sebago, Naples, Fryeburg, Hiram and Denmark were reported as being devastated in the same manner.

July 29 visited Oakland and examined forest conditions. Found large number of *H. guttivitta* and with them were many of the associates as mentioned later. A specimen of *Calosoma scrutator*, the caterpillar canibal, was taken, also a species of predaceous bug. *Podisus* was getting in its work with the caterpillars that had congregated at the foot of the trees. From the shore of the pond large tracts could be seen where the hard wood trees looked as bare as in winter.

Aug. 1 was called to Sidney and found trees badly stripped in many places. A woodlot containing fifty acres was completely defoliated, as shown on page 7. This was mostly of beech. The bulk of the caterpillars at this date have gone into the ground to pupate. Many thousands of acres have been gone over by this pest.

Aug. 10, they have practically disappeared for this summer, the pupae being found a few inches under ground, although a few stragglers are being sent in from different sections.

#### LIFE HISTORY OF HETEROCAMPA GUTTIVITTA.

The adult is a moth which measures about two inches across the extended wings. These moths emerge from the pupae, that have remained in the ground through the winter, in July and soon after lay their eggs in the leaves of the food plant. In a short time these hatch into caterpillars which proceed to feed on the leaves. At first they are so small that the destruction is hardly noticeable but their growth is rapid, and as they are reaching maturity the amount of stripping done in a few days is phenomenal. The adult caterpillar, as shown on the cover page, is about one inch and a quarter in length, light green, with prominent head bordered with dark brown lines. There are usually three light yellow lines along the back, wider in the centre and converging toward each end. On many there is a brown patch on the back, which varies in shape with almost every individual. When the caterpillar has reached its growth it goes into the ground to change to the pupa stage, remaining there until the following summer when it appears again as a moth.

The question that has been asked by hundreds is: "What can be done to save our trees?"

As has been stated, this is a phenomenal outbreak of one of our common insects. For the past few years many of our insect pests have



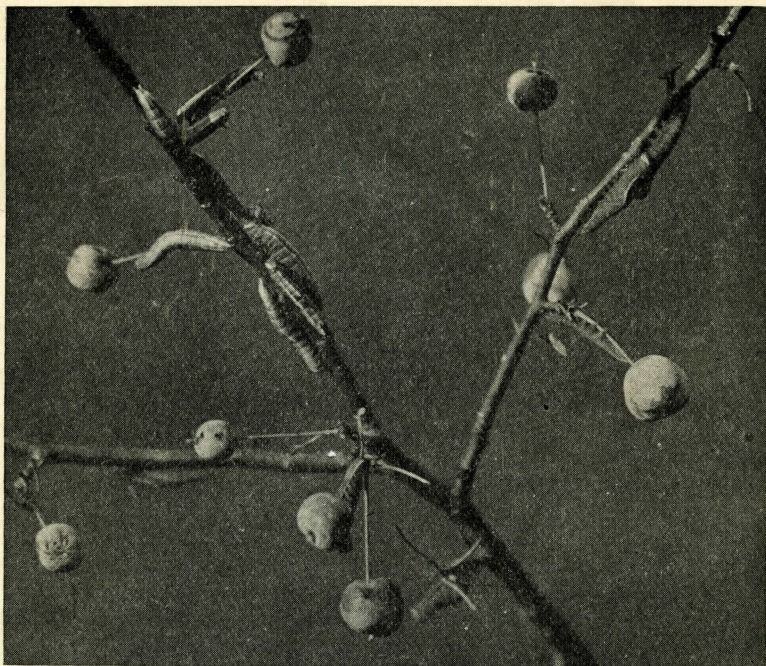


FIG. 3. Branch of tree stripped by *Heterocampa guttivitta*.

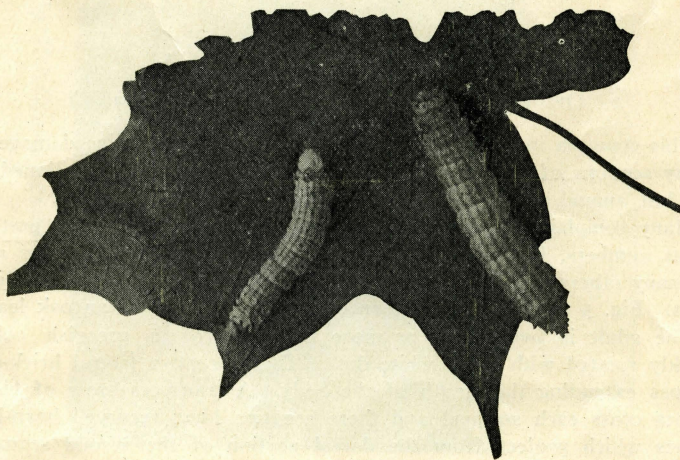


FIG. 6. Green-striped Maple-worm. *Anisota rubicunda*.



been on the increase, this species among the rest. During the same period our birds have been on the decrease, which accounts in part for the above named fact.

In all cases in the past when a species has increased to such an extent as to become a menace its decline is as rapid, and in a year or two it generally disappears as quickly as it comes. This is owing to the increase of its enemies, especially the parasites and fungous diseases.

We have noticed that quite a per cent of the caterpillars are being destroyed by Tachinid flies, predaceous bugs and beetles and quite a few Ichneumon flies.

It is well understood that this has been an unusually favorable season for the development of many forms of insect life.

It is out of the question from an economic standpoint, to endeavor to combat this pest in the forest but on orchard and shade trees much can be accomplished. Trees should be sprayed about the middle of July and again the following week. If such trees are near the wood-lot it would be well to burlap them the same as for the gipsy caterpillar. "Tangle Foot" could be used to advantage in conjunction with the burlaps, to be applied a short distance below the same. The great secret in insect control is to more fully protect our birds by not keeping so many cats and placing a bounty on red squirrels.

In answer to the inquiry regarding the possibility of the trees dying from the effect of this stripping: A deciduous tree will not stand more than three consecutive strippings. The first will naturally weaken even a vigorous tree but I do not anticipate any trouble along these lines unless the pest occurs abundantly enough to strip the same sections for at least two more seasons. We can hardly predict such a calamity, as that would be wholly out of the line of former devastations by a native insect.

#### THE ASSOCIATES OF *H. GUTTIVITTA*.

##### 1. Orange-striped Oak-worm. (*Anisota senatoria*.)

This common insect was reported as doing quite extensive damage in many sections of the state during the season of 1907, as mentioned in my last annual report.

Many complaints have come to us of the occurrence of this pest in great numbers, in some cases as being alone in its depredations and in many others as being associated with guttivitta in stripping the oak trees. Fig. 5 shows a half grown caterpillar feeding on an oak leaf.

The adult is two inches or more in length, of a greenish color, thickly spotted with small white dots. There are two lateral brick-red stripes extending the length of the body. A transverse row of black spines cross each segment and there are two long, recurved horn-like spines which project from the dorsal portion of the second segment back of the head.





FIG. 4. Portion of woodlot in Sidney defoliated by *Heterocampa guttivitta*.



## 2. Green-striped Maple-worm. (*Anisota rubicunda*.)

Fig. 6 shows two full grown larvae of this species. When mature they measure about one and three-fourths inches in length, green in color, with several longitudinal narrow yellowish stripes extending the length of the body. The segments are spined similar to the preceding species with the exception that two pair near the anal segments are much longer. They also have the pair of elongated horn-like projections on the third segment.

This species is principally confined to the white maple and has appeared in unusual numbers associated with the guttivitta.

## 3. White-tipped Moth. (*Symmerista albifrons*.)

In many of the infested sections these caterpillars appear in considerable numbers feeding principally on the oak.

The caterpillar has rather a striking appearance. A light yellow stripe extends along each side of a dorsal line, of a light violet shade. Three dark lines extend along each side. The head is light orange-red, there is also a prominent hump or projection near the anal segment of the same color.

The life histories of the three above named insects are very similar to that of *H. guttivitta*. They appear at about the same time; pass the pupa stage in the ground and emerge as an adult moth the following season.

A few birds were seen feeding on these caterpillars. The following were noted: Bluejays and blackbirds were actively engaged, while bluebirds, robins and sparrows were among the numbers but were not detected feeding on the worms.

One man stated that he had discovered a remedy. A chicken that weighed, when dressed, one and three-fourths pounds, had such a distended crop that it was thought best to make a post mortem examination. This revealed the fact that seventy-five full grown caterpillars were snugly tucked away in the above named receptacle. This gentleman thought that if one small chicken could handle seventy-five caterpillars a flock of pigeons would solve the problem most effectively.

E. F. HITCHINGS,

State Entomologist.

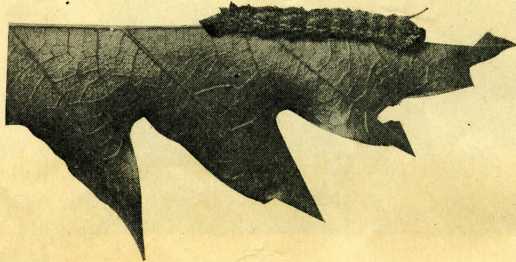


FIG. 5. Orange-striped Oak-worm. *Anisota senatoria*.